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(71) Applicant: **MULTICITY.COM, INC.** [US/US]; Suite 701, 1595 Springhill Road, Vienna, VA 22182 (US).

(72) Inventors: **HANASH, Alain, P.**; 722 Potomac Knolls Drive, McLean, VA 22102 (US). **IACOBUCCI, Ariana**; Apartment 818, 1401 North Taft Street, Arlington, VA 22201 (US).

(74) Agents: **TOERING, Rick, A.** et al.; Cooley Godward LLP, Patent Group, 11951 Freedom Drive, One Freedom Square, Reston Town Center, Reston, VA 20190-5601 (US).

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(54) Title: SYSTEM AND METHOD FOR ESTABLISHING AN ON-LINE DISCUSSION GROUP

(57) Abstract: A system and method for establishing an on-line discussion group provides a mechanism for emailing the on-line discussion group to one or more participants. According to the present invention, an on-line discussion group may be customized by a user. Once a server creates the on-line-discussion group in accordance with parameters specified by the user or otherwise, the server emails the newly created on-line discussion group to the user. After receiving the email, the user may forward the email with the on-line discussion group included therein to other users to participate in the on-line discussion group. Recipients may participate in the on-line discussion group by "clicking on" the email. Preferably, the active on-line discussion group operates within a message portion of the email upon opening the email. The on-line discussion group may include various types of communication discussion groups including, for example, an on-line chat room, an on-line message board, a teleconference, a video teleconference, an auction, etc.

SYSTEM AND METHOD FOR ESTABLISHING AN ON-LINE DISCUSSION GROUP

Background

Field of the Invention

The present invention relates to networked communication systems and more particularly to establishing on-line discussion groups.

Discussion of the Related Art

Networked communication systems are widely used and are becoming more and more accepted as a means for communicating between two or more users. Generally, in such a system, two or more remote computers are connected for purposes of exchanging information via a network. These networks may include an intranet, such as a company's local or wide area network, or an extranet, such as the Internet.

Many forms of communication have evolved in these systems. One of these forms of communication is electronic mail (or email as it is referred to herein). With email, a user at one electronic address "mails" a message to one or more users at other electronic addresses. The user(s) receiving the email may read the message and reply in turn. With this form of communication, only those users included in the address receive the message.

Various other forms of communication have also evolved using these networks. Two of these forms of communication are message boards and chat rooms. These operate differently than email. With a message board, the user "posts" a message for all to read. Typically, the user accomplishes this by accessing a website associated with the message board through a web browser. The website exists on a server at one end of the network and is accessed by the web browser located on the user's computer. Other users may read the post and respond to the post with other posts. In this manner, a "thread" is built around the original post. Typically, all the posts are stored, and sometimes archived, (for example, on the server that operates the message board) for other users to read over time and subsequently

respond with other posts. Many users "lurk" message boards, reading the posts regularly, but seldom posting.

Chat rooms operate in a similar manner, although the messages typically have shorter lives than their message board counterparts. In the chat room, users type messages which are immediately displayed on the computers of users accessing that particular chat room. Typically, these messages disappear (through scrolling, etc.) as new messages are received and displayed. As with the message boards, chat rooms are susceptible to lurkers.

One problem associated with some on-line discussion groups is that many times users do not know when their "friends" (i.e., other users) wish to initiate a new discussion group, for example, a new thread on the message board or a new discussion in a chat room. As a result, in some of these discussion groups, threads require days or weeks to complete.

Another problem associated with some on-line discussion groups is that many times users do not know in which discussion group their friends are participating.

Still another problem associated with some on-line discussion groups is that at times, a group of users may have a question that another user not presently in the discussion group might be able to answer if he or she were available.

Another problem associated with some on-line discussion groups is that they may be difficult to find or difficult to get to even if all users know "where" they plan on meeting.

Still another problem associated with some on-line discussion groups is that they are subject to "lurkers." Lurkers are electronic voyeurs, who "eavesdrop" message boards and chat rooms without ever posting or contributing. In some cases, the users using the message board or chat room have little or no idea who these lurkers are.

Yet still another problem associated with some on-line discussion groups is that many users do not know how to create or establish the discussion group or alternately, do not have a website (and a requisite server) to host the discussion group.

Various other on-line discussion groups have requirements and problems that are more particular to those types of groups. For example, on-line auctions are a type of on-line discussion group in which users enter competing bids to purchase a particular item that is up

for sale. In an on-line auction, it is important that users become aware of competing bids as soon as possible, and that the user have the opportunity to quickly and conveniently place a superior bid, if he or she so desires. With a conventional on-line auction, users must periodically check the status of the auction, and enter a higher bid as necessary to win the right to purchase the item. However, if a user forgets to check the status of the auction before it ends, or if the user mistakenly believes that he or she has entered the highest bid, then that user will lose the auction and will not be able to purchase the item in question. Although notification services exist that email users when a superior bid has been entered, in those cases a user must still travel to the website where the auction is being held to enter a winning bid. This process is inconvenient for the user; moreover, in the event that the auction is nearly over, the user may not have time to enter the winning bid, and may thereby lose the opportunity to purchase the item in question.

What is needed is a system and method for establishing an on-line discussion group that overcomes these and other associated problems.

Summary of the Invention

The present invention provides a system and method for establishing an on-line discussion group, including, for example, an auction, a chat room, a message board, a teleconference, a video teleconference, or any other forum for conducting communication. According to the present invention, an on-line discussion group is created by a user who interacts with an interface operating on a server that guides the user through the process of customizing the on-line discussion group. Once the server has created the on-line discussion group according to the user's parameters, the server emails the newly created, and preferably active, on-line discussion group to the user. After receiving the email, the user forwards the email with the on-line discussion group included therein to other users thereby inviting their participation in the on-line discussion group. Each recipient of the email may join the on-line discussion group by opening the email (i.e., by "clicking on" the email). The on-line discussion group "operates" dynamically within a message portion of the email. It should be understood that the email does not merely include a link to the discussion group that the user must subsequently "click-on" in order to activate the discussion group. Rather, the active discussion group appears in the message portion of the email once the user opens the email.

One of the features of the present invention is that users may email the on-line discussion group to their friends to invite them to participate in the on-line discussion group. The participants (the user and his or her on-line friends) thus know when and where the on-line discussion group is, without having to search for a particular on-line discussion group. The participants also know that their friends are on-line and available to participate in an on-line discussion group when they receive the email.

Another feature of the present invention is that participants may forward the email to other participants to invite them to participate in the on-line discussion group. In this manner, a group of participants may be selectively invited to participate in the on-line discussion group, thereby creating a unique interconnection of participants within the underlying communication network. In effect, the present invention establishes a virtual network.

Another feature of the present invention is that the on-line discussion group may be customized to be private. Typically, on-line discussion groups are public forums that any "web surfer" may join participate in. According to the present invention, an on-line discussion group may be created as private. In this case, the on-line discussion group cannot be accessed by a web surfer through conventional web browsing means. Instead, participants may only access the on-line discussion group by receiving an email with the on-line discussion group included therein.

With respect to on-line auctions, users may participate in the auction directly through an email messaging system. Thus, in addition to the advantages outlined above with respect to other types of on-line discussion groups, users may be notified by email immediately upon entry of a higher bid. Moreover, users may immediately place a responsive superior bid directly through the forum contained within the email, without having to invoke a separate web browser and travel to the website where the auction is being held. This methodology provides users with the most convenient access to the auction, and provides the best opportunity for a given user to enter a winning bid.

Other features and advantages of the invention will become apparent from the following drawings and description.

Brief Description of the Drawings

The present invention is described with reference to the accompanying drawings. In the drawings, like reference numbers indicate identical or functionally similar elements. Additionally, the left-most digit(s) of a reference number identifies the drawing in which the reference number first appears.

FIG. 1 illustrates a computer network, including a virtual network created by the present invention.

FIG. 2 illustrates an email program including an on-line discussion group operating therein according to one embodiment of the present invention.

FIG. 3 illustrates a hierarchy under which a preferred embodiment of the present invention operates.

FIG. 4 illustrates a flowchart that describes the operation of the code portion of a discussion group email according to an example embodiment of the present invention.

FIG. 5 illustrates a message board operating in an email program according to another embodiment of the present invention.

FIG. 6 illustrates a user posting a message onto the message board according to an example embodiment of the present invention.

FIG. 7 illustrates an email program including an on-line auction operating therein according to one embodiment of the present invention.

FIG. 8 illustrates an email program including an auction website operating therein according to one embodiment of the present invention.

Detailed Description of the Preferred Embodiments

The present invention is directed to a system and method for creating an on-line discussion group. The present invention is described herein in terms various embodiments

such as on-line message boards and on-line chat rooms. It will be understood from reading the following description that the present invention includes creating other on-line discussion groups including, but not limited to, teleconferencing and video-teleconferencing as well.

FIG. 1 illustrates a computer network 100 including a plurality of users 110A-C participating in an on-line discussion group via a plurality of computers 120A-C interconnected to one another and at least one server 140 via a network 130. Computers 110 may be any electronic communicating device capable of interfacing with network 130. Such devices may include computers, laptops, telephones, cellular phones, personal data accessories ("PDA"), pagers, or similar electronic communication devices, as would be apparent. Network 130 may be any form of interconnecting network including an intranet, such as a local or wide area network, or an extranet, such as the World Wide Web, or the Internet. Such networks 130 may include various wireless connections as would be apparent. Server 140 may be any sort of storage device for hosting an on-line discussion group. Server 140 may coexist within one of computers 110 as would be apparent.

According to the present invention, and as discussed in further detail below, the present invention establishes a "virtual network" 140 within network 100. Virtual network 140 is an interconnection among users 110 established through an email system (or similar messaging system) operating on each of computers 120A-C. Virtual network 140 operates seamlessly through the respective email systems so that computers 120 appear to be connected directly to one another rather than interconnected through network 100.

The present invention is now described with reference to an example of an on-line discussion group: a chat room operating on the Internet. Typically, in a conventional system, an Internet Service Provider ("ISP") provides one or more servers on which various entities facilitate and maintain one or more chat rooms. Using computers 120 equipped with a "web browser," users 110 interact with other users 110 in the chat room on server 140 via network 130 as is well known.

The present invention provides a novel mechanism for creating and establishing the on-line discussion group, such as the above-described chat room. According to the present invention, an on-line discussion group is preferably created by a user 110A who interacts with an interface operating on server 140 that customizes the on-line discussion group. For

example, this interface may be accessed by user 110A via a website operated by server 140. Alternately, a default on-line discussion group could be provided by the server 140 itself. Once the server 140 has created the on-line-discussion group, the server 140 emails the newly created on-line discussion group to user 110A. After receiving the email, user 110A may subsequently forward the email with the on-line discussion group included therein to other users 110 to participate in the on-line discussion group. Recipients (such as users 110) of the email may "click" the email open to immediately find an active on-line discussion group dynamically operating within a message portion of the email. It should be understood that the present invention is not merely an email with a link to the discussion group (e.g., a URL) included in the message portion of the email. Rather, the active discussion group appears in the message portion of the email immediately upon the user opening the email. Interaction with the on-line discussion group subsequently occurs according to well known techniques albeit within the message portion of the email.

FIG. 2 illustrates an email program 200 including an on-line discussion group 250 operating therein according to the present invention. Email program 200 may include a folders portion 210 preferably including one or more folders 215, a toolbar 220, a folder list portion 230 preferably including a list of emails 232 stored in one of folders 215, and a message portion 240 that displays the message included in one of the emails 232. As illustrated in FIG. 2, message portion 240 is displaying email message 235, which according to the present invention, is an on-line discussion group 250. In this example, on-line discussion group 250 is a chat room 250.

FIG. 3 illustrates a hierarchy 300 under which a preferred embodiment of the present invention operates. Hierarchy 300 includes an operating system 310 that controls the operation of computer 120. Preferably, operating system 310 is a Windows™ operating system provided by Microsoft, although other operating systems 310 may be used as would be apparent.

Operating within operating system 310 is email program 200. Various email programs 200 may be used as would be apparent. Email program 200 includes any Java/HTML-enabled email software such as, for example, Microsoft Outlook™ or Netscape Messenger™. When an email, such as email 235, that includes an on-line discussion group 250 is opened, a web browsing engine 320 (or similar network interfacing engine capable of

rendering mark-up or scripting languages) is invoked to retrieve on-line discussion group 250 from server 140 and display it within message portion 240. Preferably, web browsing engine 320 is Internet Explorer™ 5.0 by Microsoft, although other browsing engines could be used as would be apparent. When email 235 is opened, email program 200 opens a window, preferably within message portion 240 of email program 200, in which web browsing engine 320 is opened and operates. Web browsing engine 320 subsequently interacts with on-line discussion group 250 in a conventional manner, albeit within email program 200. In the preferred embodiment of the present invention, on-line discussion group 250 appears to operate within email 235.

In order to operate in the manner thus described, email 235 includes a code portion such as hypertext markup language ("HTML") code or Java™ code that causes email program 200 together with operating system 310 to open a window within message portion 240 and invoke web browsing engine 320. An instance of web browsing engine 320 is opened within message portion 240. Once opened, web browsing engine 320 receives an address that locates and retrieves on-line discussion group 250. Subsequently, web browsing engine 320 interacts with on-line discussion group 250 in a conventional manner.

FIG. 4 is a flowchart that describes in greater detail the operation of the code portion contained in the discussion group email according to a preferred embodiment of the present invention. In operation 402, a user 110 receiving the discussion group email (e.g., user 110A or any other user 110 to whom the discussion group email is forwarded) opens the discussion group email in a manner appropriate to the particular email program 200.

In operation 404, email program 200, under the control of the code portion, determines the most effective way to display discussion group 250 based on the particular browsing engine 320 used by user 110. According to a preferred embodiment, email program 200 first determines whether web browsing engine 320 supports HTML frames. If HTML frames are not supported, email program 200 determines whether browsing engine 320 supports IFRAMES. If IFRAMES are not supported, email program 200 determines whether browsing engine 320 supports LAYERS (as currently supported by Netscape browsers). If all of the above fail, the code portion includes Javascripts, or similar scripting language, with a link to an innermost noframe section that will invoke (i.e., open) a separate instance of web browsing engine 320 wherein the reference to the discussion group is resolved. This

preferred embodiment thereby permits operation with and across various web browsing engines 320.

As will be apparent, the present invention contemplates other alternative embodiments wherein different types of displays are tested by the code portion, or tested in a different sequence than that described above. Alternatively still, the code portion may determine whether a single display type is supported by web browsing engine 320, and if not, provide a hyperlink to user 110 to manually click on to reach discussion group 250.

In operation 406, the code portion creates discussion group 250 within message portion 240. According to a preferred embodiment, the code portion downloads additional code that is responsible for displaying the discussion group. For example, the code portion can include a reference URL, possibly with one or more parameters configured by user 110A or server 140, that points to code for displaying the discussion group. Web browser 320 can replace the reference URL with the referenced code. According to this preferred embodiment, the most recent version of the referenced code can be downloaded each time the discussion group email is opened or refreshed. As will be apparent, alternative embodiments can include code to display the discussion group within the code portion at the time the discussion group email is created by server 140.

The referenced code invokes web browsing engine 320 (or similar network interfacing engine capable of rendering mark-up or scripting languages) to retrieve on-line discussion group 250 from server 140 and display it within message portion 240. Preferably, web browsing engine 320 is Internet Explorer™ 5.0 by Microsoft, although other browsing engines could be used as would be apparent. When email 235 is opened, email program 200 opens a window, preferably within message portion 240 of email program 200, in which web browsing engine 320 is opened and operates. Web browsing engine 320 subsequently interacts with on-line discussion group 250 in a conventional manner, albeit within email program 200. In the preferred embodiment of the present invention, on-line discussion group 250 appears to operate within email 235.

According to a preferred embodiment of the present invention, a user, such as user 110A accesses a website to select and customize an on-line discussion group 250. In other embodiments of the present invention, user 110A may select and customize on-line

discussion group 250 via telephone or other form of communication as would be apparent. Various parameters may be selected by user 110A including a date and or a time at which on-line discussion group 250 is to be created. Other parameters may also be specified including a subject matter for the discussion group, a description of the discussion group's purpose, a category for organizing the discussion group with other discussion groups, a location or residence for the discussion group (i.e., systems used to host the discussion group), and whether the discussion group is to be private. This latter parameter determines whether the discussion group is accessible through a website hosting similar forums as well as being accessed via an email. Numerous other parameters may be specified including colors, shapes, graphics, etc., to be used for on-line discussion group 250 as would be apparent. In addition to these parameters, user 110A specifies his email address to which on-line discussion group 250 is to be delivered.

After on-line discussion group 250 is customized by user 110A, server 140 creates on-line discussion group 250 and also generates the HTML, Java code, or any other form of computer logic that is used by a web browser to render pages or perform various web-related functions (collectively, "code"), that will invoke on-line discussion group 250 in email program 200. This code is placed in email 235 and delivered to computer 120A at user 110A's email address. By way of example, Table 1 includes contents of an email 235 (i.e., code) for a chat room according to one embodiment of the present invention, while Table 2 includes contents of an email 235 (i.e., code) for a message board according to another embodiment of the present invention. As would be apparent, the contents of these emails are different due to the nature of the underlying on-line discussion group. As would also be apparent, the contents of emails for other forms of on-line discussion groups would have to be similarly adapted. As would also be apparent, the contents of the emails may have to be adapted for other types of web browsers or for other forms of computer logic.

As referred to above, the contents of the each of these exemplary emails include a code portion that effectuates the present invention in email program 200. The code portion (i.e., a suitable mark-up language or scripting code) creates a window or "frame," preferably, although not necessarily, within message portion 240, so that on-line discussion group 250 can be rendered therein. The code portion also includes a reference (e.g., a URL) to on-line discussion group 250 itself. Once the reference is encountered by web browsing engine 320,

the reference is resolved, and in the preferred embodiment of the present invention, on-line discussion group 250 is rendered within message portion 240.

TABLE 1 – EXEMPLARY CONTENTS OF AN EMAIL FOR A CHAT ROOM

```
<HTML><BODY COLOR=FFFFFF><FONT SIZE=-1><CENTER><B>Your Personal
Multicity Chat Room</B><BR><APPLET CODEBASE="http://www.multichat.com/ChatBox"
ARCHIVE="multichat.zip" CODE="GUIClient.class" WIDTH="562" HEIGHT="385"
ALIGN="BOTTOM">
<PARAM NAME="Category" VALUE="6">
<PARAM NAME="Language" VALUE="EN">
<PARAM NAME="ChatAreaBackground" VALUE="blue">
<PARAM NAME="ChatAreaForeground" VALUE="white">
<PARAM NAME="Subject" VALUE="Ari's Room">
<PARAM NAME="SpecifiedTarget" VALUE="Ari's Room#http://www.multicity.com">
<PARAM NAME="FontName" VALUE="Helvetica">
<PARAM NAME="FontSize" VALUE="12">
<PARAM NAME="HomepageImage" VALUE="http://www.multichat.com/images/man.gif">
<PARAM NAME="HomepageURL" VALUE="http://www.multicity.com">
Your browser does not support Java applets. Upgrade to a newer browser or use the Options
menu to enable Java.
</APPLET>
<CENTER><FONT SIZE=-1>To get your own personal chat room, please visit
<http://www.multicity.com><BR></HTML>
```

TABLE 2 – EXEMPLARY CONTENTS OF AN EMAIL FOR A MESSAGE BOARD
<frameset rows="*"> <frame name="main" src="http://multicity.com/servlets/msgboard?action=2&boardid=1&frame=1"> </frameset>

Thus, user 110A receives email 235 including his on-line discussion group 250. User 110A may subsequently forward email 235 to one or more other users, such as user 110B and/or user 110C, to initiate on-line discussion group 250. Once these users receive and open email 235, on-line discussion group operates within message portion 240 of each of users' 110 email program as described above. Each user 110 may subsequently forward email 235 to other users until a particular group is established.

Table 3 includes contents of an email 235 for operating with and across various web browsing engines 320 according to a preferred embodiment of the present invention. The code portion in the preferred embodiment is used to first determine whether web browsing engine supports frames. If so, a frame is created and the reference to the discussion group is resolved.

TABLE 3 – EXEMPLARY CONTENTS OF AN EMAIL THAT OPERATES ACROSS WEB BROWSING ENGINES

```
<html>
<head>
<title>"+title+"</title>
</head>
<frameset rows=\"*\">
<frame name=\"main\" src=\""+url+"\" target=\"main\">
</frameset>
  <noframe>
    <IFRAME frameborder=0 width=100% height=100% src=\""+url+"\">
    </IFRAME>
      <noframe>
      url="http://www.multicity.com/servlet/InTheBoxDistributor?product="+sProduct+"&url
="+URLEncoder.encode(host+"/servlet/MinicityForumLoader?client=J&ForumURL="+URLEn
coder.encode(strSubject)+"&detach=1&Translation=t&html=0&ShowLiveChat="+strShowLive
Chat+"&UserName="+URLEncoder.encode(strUsername)+"&AppletBackground="+URLEnco
der.encode("#EFEFEF")+"&ChatAreaForeground="+URLEncoder.encode("#003366")+"&Chat
AreaBackground="+URLEncoder.encode("#FFFFFF"))+"&username="+URLEncoder.encode(st
rUsername)+"&subject="+URLEncoder.encode(strSubject)+"&id="+strProductId+"&body="+U
RLEncoder.encode(strBody)
      </noframe>
  </noframe>
<BR><layer src=\""+url+"\">
</layer>
</html>
```

If frames are not supported by web browsing engine 320, the code portion in Table 3 is used to determine whether iframes are supported by web browsing engine 320. If so, an iframe is created and the reference to the discussion group is resolved.

If neither frames or iframes are supported by web browsing engine 320, the code portion in Table 3 includes Javascripts, or similar scripting language, with a link to an innermost noframe section that will invoke (i.e., open) a separate instance of web browsing engine 320 wherein the reference to the discussion group is resolved.

The present invention operates in a similar manner when a message board is the on-line discussion group of choice. FIG. 5 illustrates a message board 510 operating in message portion 240 of email program 200. FIG. 6 illustrates a user posting a message 610 onto message board 510 within message portion 240 of email program 200.

As mentioned above, the present invention may be extended to include on-line discussion groups such as teleconferencing and video-teleconferencing, or any other medium of communication. As the lines between computer communications and voice communications blur, for example, as with "voice over IP," the present invention may be used to establish these types conference calls. One user may interact with an operator (live or electronic) to set up the conference call in a manner similar to that described above with respect to on-line discussion group 250. The operator creates the conference call (i.e., allocates a particular set of communication bandwidth to accommodate the call and a server to manage it) and emails the conference call to the user. The user may then email the conference call to each of the desired participants at the appropriate time. In an alternate embodiment, the operator may email the conference call to each of the user and the participants at a specified time. The participants open the email "containing" the active conference call and hear and/or view each of the other participants. Other participants may be subsequently emailed to join the conference call as described above, while still other participants may drop the conference call by leaving the email. This provides a drastic increase in flexibility and ease of user over present teleconferencing technology.

In another embodiment of the present invention, the discussion group may include a survey or voting mechanism. In this embodiment, the user may be able to email a group of participants with one or more survey questions or a proposal up for vote. The participants may either answer the survey questions or cast their vote, respectively, in the discussion group. Such discussion groups may be useful, for example, in performing consumer research or conducting election polls, etc.

According to yet another alternative embodiment of the present invention, discussion groups may include an on-line auction. Many websites today provide on-line auction capabilities wherein users of the website can post goods or services to be auctioned according to a variety of auction types. However, existing on-line auctions suffer from many of the same problems as described above with respect to other discussion groups, such as users being unaware that a particular auction of interest is taking place, difficulties associated with finding a particular auction even if the user is generally aware that the auction is taking place, and inability to easily create a private "invitation only" auction.

In a manner similar to that described above with respect to creating and establishing discussion group 250, user 110A preferably accesses a website to cause server 140 to create an on-line auction. User 110A may alternatively create an on-line auction via telephone or other form of communication as would be apparent. Once server 140 has created the auction, server 140 emails the newly created auction to user 110A. As with other discussion groups, user 110A may subsequently forward the email with the auction included therein to other users 110 who may be interested in participating in the auction. Alternatively, server 140 can maintain distribution lists of users 110 to receive auction emails based on various criteria, such as expressed interest in a particular item or items put up for auction by a particular party. In one example embodiment, server 140 forwards, either automatically or at the request of user 110A, an auction email to those users 110 listed on one or more distribution lists. Auctions may thereby be targeted to those users 110 more likely to be interested in bidding on the item being auctioned.

Prospective users of the on-line auction can also be invited to create an auction by sending them an email, rather than depending upon the prospective user to access a website to create an auction. Server 140 can send to prospective users 110 an email that, when opened, allows user 110A to create an on-line auction within the message portion of the email. In this embodiment, the interactive message portion that allows user 110A to create an auction can be implemented using code similar to that described above with respect to creating discussion groups. The message portion of the email can display an interface similar to that used by the website in the preferred embodiment described above for allowing a user to create an on-line auction. This embodiment provides, for example, an effective tool for marketing the on-line auction functionality. Email can be sent to those users 110 who might be interested in

utilizing the on-line auction functionality, allowing the user to create an auction directly from within the advertising email rather than having to leave the email program and access the auction-creation website using a web browser. From that point forward, server 140 performs the same operations as described with respect to the preferred embodiment, creating the on-line auction and emailing it to the creating user for forwarding on to others.

Users 110 who receive the emailed auction may click the email open to immediately find the active auction dynamically operating within the message portion of the email. As with other discussion groups, this should be distinguished from an email merely including a link to a website where an auction is being conducted. Recipients of the emailed auction may immediately begin interacting with the auction by, for example, signing in, reading about the auctioned item, and placing a bid. As general matter, much of the functionality provided by today's auction websites can also be provided via the on-line auction email. For example, users 110 may (if allowed by the auction configuration) post their own items for sale on the on-line auction, edit items they've already posted, monitor bidding and review a bid history, enable proxy bidding, search for other items being auctioned, and provide feedback on the seller or bidders after a transaction is completed.

The auction may be configured by user 110A at the time the auction is created, or alternatively, user 110A may configure the auction upon receiving the auction email. The auction may be configured, for example, to: allow particular types of auctions, display graphics or color schemes, display certain categories of auction items, control user access to specified categories, or to ban particular users from interacting with the auction.

Various embodiments are contemplated according to the present invention wherein items posted on an on-line auction are drawn from various sources. According to a first example embodiment, user 110A creates an auction and posts one or more items for sale. Alternatively, user 110A may create an auction, initially without any posted items, in order to provide a forum for those receiving the auction email to post their own items for sale. Alternatively still, user 110A may create an auction and post one or more items posted on other public on-line auctions.

As described above with respect to discussion groups in general, an on-line auction can be configured to be private or open to the public. Private auctions might only allow

recipients of the auction email to post items for sale. Varying levels of privacy can be configured, such as granting subsets of users specific posting privileges, as would be apparent. Public auctions, on the other hand, might allow recipients of an on-line auction to post items or place bids on another on-line auction. For example, an on-line auction might be configured to allow recipients of an auction email to not only search and bid on those items posted on the received auction, but also those items posted on other public on-line auctions hosted by server 140. Conversely, users could post items for sale on other public on-line auctions.

According to a preferred embodiment of the present invention, server 140 creates and sends auction emails to users 110 who have submitted bids in a particular auction in which a higher bid is subsequently received from another user. This provides the user with a convenient opportunity to submit a higher bid, if the user so desires, within the message portion of the email. Server 140 can be configured to send these auction emails automatically, or upon request of user 110. Server 140 can also generate and send auction emails to users 110 within a particular period prior to the end of an auction. Frequent auction participants will recognize that auctions are typically most active just before the auction's end. Users 110 may, for example, wish to be included on various distribution lists and may further indicate a preference to receive the auction email during this active period.

Various types of auctions are supported according to the present invention. For example, supported auction types include, but are not limited to, High Bid, Dutch, Yankee, Sealed Bid, and Vickrey type auctions. Various auction styles are also supported, such as reserve price and private auctions (i.e., the bidder's identity and bid amounts are not shown during the auction).

As described above, the emailed auction can be directed to the live auction of a particular item, such as a good or service. FIG. 7 illustrates an example auction 710 preferably operating in message portion 240 of email program 200. Auction 710 includes a title portion 720, an auction details portion 730, and a data entry portion 740. Title portion 720 identifies, for example, the particular product that is being auctioned and may include various advertisements. Auction details portion 730 can provide, for example, information related to auction type, minimum bid and bid increment, bidding history, when the auction

began and when it will end. Data entry portion 740 includes various fields prompting user 110 to provide information related to the auction.

Alternatively, the emailed auction can be directed to an auction website rather than an auction for a particular item. Recipient users 110 may then search product categories, bid on items, and access other features provided by the auction website. FIG. 8 illustrates an example auction website 810 preferably operating in message portion 240 of email program 200. Auction website 810 can include, for example, information related to the website in graphical and textual form, advertisements, and links to various other website functions and web pages.

At the conclusion of an on-line auction, the successful bidder and the seller are sent an email that alerts the parties to the auction's conclusion. According to a preferred embodiment of the present invention, the email, when opened, provides the parties with tools designed to assist the parties in concluding the transaction. These tools can be accessed directly within the message portion of the email. For example, on-line payment services are provided that allow the bidder to pay the seller the agreed upon amount in a secure manner using a credit card. Links may also be provided to delivery services to arrange for transport of the purchased items from seller to bidder. The interactive message portion wherein the seller and successful bidder access these tools can be implemented using code similar to that described above with respect to creating discussion groups.

According to yet another example alternative embodiment of the present invention, the code portion within the discussion group email may contain a reference URL that points to any arbitrary content, static or dynamic, that is accessible via web browser 320. For example, the reference URL can point to a web page containing static content that is then displayed within message portion 240. Alternatively, the reference URL can point to a web page that is updated dynamically, causing the most recent version of the web page to be displayed within message portion 240. The present invention therefore contemplates the delivery of any content, accessible via web browser 320, wherein the content is automatically displayed within message portion 240 upon opening an email containing an appropriate code portion.

While the present invention has been described in terms of a preferred embodiment, other embodiments and variations are within the scope of the following claims. For example, various other on-line discussion groups are anticipated in addition to those mentioned above. It would be apparent to those skilled in the art how these other on-line discussion groups may be incorporated into the present invention.

What is claimed is:

CLAIMS

1. A method for operating an on-line discussion group comprising the steps of:

receiving an email that includes code and a reference to the on-line discussion group; and

opening said email whereupon the on-line discussion group appears in a message portion of said email.

2. The method of claim 0, wherein said opening said email further comprises:

determining from said code whether frames are supported by a corresponding web browsing engine, and, if so, resolving said reference whereupon the on-line discussion group appears in said frame of said web browsing engine.

3. The method of claim 2, further comprising:

using said code portion to determine whether iframes are supported by said web browsing engine, and, if so, resolving said reference whereupon the on-line discussion group appears in said iframe of said web browsing engine.

4. The method of claim 0, wherein the on-line discussion group is an on-line chat room.

5. The method of claim 0, wherein the on-line discussion group is an on-line message board.

6. The method of claim 0, wherein the on-line discussion group is a teleconference.

7. The method of claim 0, wherein the on-line discussion group is a video-teleconference.

8. The method of claim 0, wherein the on-line discussion group is an on-line auction.

9. The method of claim 0, further comprising creating an on-line discussion group.

10. The method of claim 0, further comprising forwarding said email to other users to participate in the on-line discussion group.

11. The method of claim 0, wherein said opening said email comprises invoking a web browsing engine that resolves said reference to the on-line discussion group thereby causing the on-line discussion group to appear in said message portion of said email.

12. The method of claim 11, wherein said opening comprises opening a window in a message portion of said email in which said web browsing engine renders the on-line discussion group.

13. An email message comprising:

a code portion; and

a reference to content accessible via a network;

wherein said code portion invokes a web browsing engine to resolve said reference whereby said content operates within the email message.

14. The email message of claim 13, wherein said code portion causes a window to open in which said web browsing engine renders said content.

15. The email message of claim 13, wherein said content comprises dynamic content.

16. The email message of claim 13, wherein said content is an on-line discussion group.

17. The email message of claim 13, wherein said content comprises an on-line auction.

18. The email message of claim 13, wherein said code portion determines whether frames are supported by said web browsing engine, and if so, causes a frame to open in which said web browsing engine renders said content using said reference.

19. The email message of claim 18, wherein, if said frames are not supported by said web browsing engine, said code portion determines whether iframes are supported by said web browsing engine, and if so, causes an iframe to open in which said web browsing engine renders said content using said reference.

20. The email message of claim 13, wherein said code portion determines whether iframes are supported by said web browsing engine, and if so, causes an iframe to open in which said web browsing engine renders said content using said reference.

21. A method for providing an on-line discussion group to at least one user comprising:

creating an on-line discussion group in response to a request by a user;

generating a code portion associated with the on-line discussion group, said code portion including a reference to the on-line discussion group, said code portion for opening a window in an email program and for invoking a web browsing engine to resolve said reference and render the on-line discussion group in said window; and

providing said code portion including said reference to the user in an email.

22. The method of claim 21, wherein the on-line discussion group is one of an on-line chat room, an on-line message board, a teleconference, a video-teleconference and an auction.

23. The method of claim 21, wherein said providing said code portion to the user comprises sending the email to the user.

24. The method of claim 21, wherein said window is opened in a message portion of the email.

25. The method of claim 21, wherein said generating a code portion comprises generating said code portion that determines whether a corresponding web browsing engine supports frames, and if so, that opens a frame for rendering the on-line discussion group.

26. The method of claim 25, wherein said step of generating a code portion further comprises generating said code portion that determines whether a corresponding web browsing engine supports iframes, and if so, that opens an iframe for rendering the on-line discussion group.

27. The method of claim 21, wherein said generating a code portion comprises generating said code portion that determines whether a corresponding web browsing engine supports iframes, and if so, that opens an iframe for rendering the on-line discussion group.

28. The method of claim 21, wherein said generating a code portion further comprises generating said code portion that opens another instance of said web browsing engine for rendering the on-line discussion group.

29. The method of claim 21, wherein said creating an on-line discussion group further comprises creating an on-line auction in response to a request by a user.

30. The method of claim 29, wherein said providing said code portion further comprises providing said code portion including said reference to recipients included in a distribution list.

31. The method of claim 30, wherein said code portion is provided to one or more of said recipients within a time period prior to the end of said auction.

32. The method of claim 29, further comprising:

providing said code portion including said reference to a second user, wherein said second user submitted a first bid in said auction, upon receiving a second bid greater than said bid.

33. An email message comprising:

a first code portion;

a first reference to content accessible via a network; and

a second reference to a second code portion,

wherein said first code portion invokes a web browsing engine to resolve said second reference whereby said second code portion is downloaded, and wherein said second code portion invokes said web browsing engine to resolve said first reference whereby said content appears within the email message.

34. The email message of claim 33, wherein said second code portion causes a window to open inside said email message in which said web browsing engine renders said content.

35. The email message of claim 33, wherein said content comprises an on-line auction.

36. The email message of claim 33, wherein said content comprises an on-line auction website.

37. The email message of claim 33, wherein said content comprises dynamic content.

38. A system for establishing and maintaining a virtual network within a network including a plurality of computers, comprising:

a generator residing on a first one of the computers that generates a code portion and a reference to a logical address on the first computer at which information relevant to the virtual network is stored; and

a transmitter for sending the code portion and the reference to each of the computers through a messaging system operating on each of the computers,

wherein the code portion operates through the messaging system to establish and maintain the virtual network on each of the plurality of computers.

39. The system of claim 38, wherein the messaging system is an email messaging system, and further wherein the virtual network is accessed through a message portion of an email received by the plurality of computers.

40. The system of claim 38, wherein the virtual network is a forum for one of an on-line chat room, an on-line message board, a teleconference, a video-teleconference and an on-line auction.

41. The system of claim 38, wherein the code portion invokes a web browsing engine to resolve said reference, whereby said virtual network operates within the messaging system.

42. A system for allowing content communication between a plurality of individuals via a plurality of computers, comprising:

an email message that displays the content for common viewing by the plurality of individuals via the plurality of computers,

wherein the content is dynamically maintained over time as it is updated or altered by any one of the plurality of individuals.

43. The system of claim 42, wherein the email message comprises:

a code portion; and

a reference to the content,

wherein the code portion invokes a web browsing engine to resolve the reference, whereby the content is dynamically displayed within the email message.

44. The method of claim 42, wherein the content is one of an on-line chat room, an on-line message board, a teleconference, a video-teleconference and an on-line auction.

45. A system for allowing content communication between a plurality of individuals via a plurality of computers, comprising:

a first computer that generates an initial version of the content and forwards the initial version to a first individual requesting the content generation,

wherein the first computer forwards the initial version in an email message that is forwarded to at least one of the other individuals, and further wherein the first computer dynamically maintains the content within the email message for the plurality of individuals in response to further requests from the users.

46. The system of claim 45, wherein the content is one of an on-line chat room, an on-line message board, a teleconference, a video-teleconference and an on-line auction.

47. The system of claim 45, wherein a window opens inside the email message in which a web browsing engine renders the content.

48. The system of claim 45, wherein said code portion determines whether frames are supported by said web browsing engine, and if so, causes a frame to open in which said web browsing engine renders said content using said reference.

49. The system of claim 48, wherein said code portion determines whether iframes are supported by said web browsing engine, and if so, causes an iframe to open in which said web browsing engine renders said content using said reference.

50. A method for operating an on-line discussion group comprising:

receiving an email that includes code and a reference to the on-line discussion group; and

opening said email whereupon the on-line discussion group operates in a message portion of said email.

51. The method of claim 50, wherein the on-line discussion group is one of an on-line chat room, an on-line message board, a teleconference, a video-teleconference and an on-line auction.

52. The method of claim 50, further comprising forwarding said email to other users to participate in the on-line discussion group.

53. The method of claim 50, wherein said opening said email comprises invoking a web browsing engine that resolves said reference to the on-line discussion group, thereby causing the on-line discussion group to appear in said message portion of said email.

54. An email message comprising:

a code portion; and

a reference to an on-line discussion group,

wherein said code portion invokes a web browsing engine to resolve said reference whereby said on-line discussion group operates within the email message.

55. The email message of claim 54, wherein said code portion causes a window to open inside said email message in which said web browsing engine renders said on-line discussion group.

56. A method for creating an on-line discussion group, comprising:

creating a forum on a server;

notifying at least one participant of the forum and its location on the server; and

displaying the forum within an email system of the participant.

57. The method of claim 56, wherein said creating a forum on a server is performed in response to a user request.

58. The method of claim 56, wherein said notifying at least one participant of the forum and its location on the server further comprises:

sending an email to the participant that includes the location of the forum and a code portion for invoking the web page within the email.

59. The method of claim 56, wherein said displaying the forum within an email system of the participant further comprises:

registering and storing changes made by the at least one participant to the forum on the server; and

displaying the changes within the email system of the at least one participant approximately in real-time.

60. The method of claim 56, wherein the on-line discussion group is one of an on-line chat room, an on-line message board, a teleconference, a video-teleconference and an on-line auction.

61. A computer program product for enabling a processor in a computer system to implement a system for operating an on-line discussion group, said computer program product comprising:

a computer usable medium having computer readable program code means embodied in said medium for causing a program to execute on the computer system, said computer readable program code means comprising:

means for creating an on-line discussion group in response to a request by a user;

means for generating a code portion associated with the on-line discussion group, said code portion including a reference to the on-line discussion group, said code portion for

opening a window in an email program and for invoking a web browsing engine to resolve said reference and render the on-line discussion group in said window; and

means for providing said code portion including said reference to the user in an email.

62. The computer program product of claim 61, wherein the on-line discussion group is one of an on-line chat room, an on-line message board, a teleconference, a video-teleconference and an on-line auction.

63. The computer program product of claim 61, wherein the window is opened in a message portion of the email.

64. The computer program product of claim 61, wherein said means for generating a code portion comprises means for generating a code portion that determines whether a corresponding web browsing engine supports frames, and if so, that opens a frame in said web browsing engine for rendering the on-line discussion group.

65. The computer program product of claim 64, wherein said means for generating a code portion further comprises means for generating a code portion that determines whether a corresponding web browsing engine supports iframes, and if so, that opens an iframe in said web browsing engine for rendering the on-line discussion group.

66. The computer program product of claim 61, wherein said means for creating an on-line discussion group further comprises:

means for creating an on-line auction in response to a request by a user.

67. The computer program product of claim 66, wherein said means for providing said code portion further comprises:

means for providing a code portion including said reference to recipients included in a distribution list.

68. The computer program product of claim 66, wherein said code portion is provided to one or more of said recipients within a time period prior to the end of said auction.

69. The computer program product of claim 66, wherein said means for providing said code portion including said reference to a second user, wherein said second user submitted a first bid in said auction, upon receiving a second bid greater than said bid.

70. A computer program product for enabling a processor in a computer system to implement a system for creating an on-line discussion group, said computer program product comprising:

a computer usable medium having computer readable program code means embodied in said medium for causing a program to execute on the computer system, said computer readable program code means comprising:

means for storing a forum on a server;

means for causing a computer to notify at least one participant of the forum and its location on the server; and

means for causing a computer to display the forum within an email system of the participant.

71. The computer program product of claim 70, wherein said means for storing a forum on a server is activated in response to a user request.

72. The computer program product of claim 70, wherein said means for causing a computer to notify at least one participant of the forum and its location on the server further comprises:

means for sending an email to the participant that includes the location of the forum and a code portion for invoking the forum as a web page within the email.

73. The computer program product of claim 70, wherein said means for causing a computer to display the forum within an email system of the participant further comprises:

means for registering and storing changes made by the at least one participant to the forum on the server; and

means for causing a computer to display the changes within the email system of the at least one participant approximately in real-time.

74. The computer program product of claim 70, wherein the on-line discussion group is one of an on-line chat room, an on-line message board, a teleconference, a video-teleconference and an on-line auction.

75. A computer data signal embodied in a transmission medium for causing a computer system to create an on-line discussion group, said computer data signal comprising:

computer-readable program code for causing a computer to store a forum on a server;

computer-readable program code for causing a computer to notify at least one participant of the forum and its location on the server; and

computer-readable program code for causing a computer to display the forum within an email system of the participant.

76. The computer data signal of claim 75, wherein said computer-readable program code for causing a computer to store a forum on a server is performed in response to a user request.

77. The computer data signal of claim 75, wherein said computer-readable program code for causing a computer to notify at least one participant of the forum and its location on the server further comprises:

computer-readable program code for causing a computer to send an email to the participant that contains the location of the web page and a code portion for invoking the fourm as a web page within the email.

78. The computer data signal of claim 75, wherein said computer-readable program code for causing a computer to display the forum within an email system of the participant further comprises:

computer-readable program code for causing a computer to register and store changes made by the at least one participant to the forum on the server; and

computer-readable program code for causing a computer to display the changes within the email system of the at least one participant approximately in real-time.

79. The computer data signal of claim 75, wherein the on-line discussion group is one of an on-line chat room, an on-line message board, a teleconference, a video-teleconference and an on-line auction.

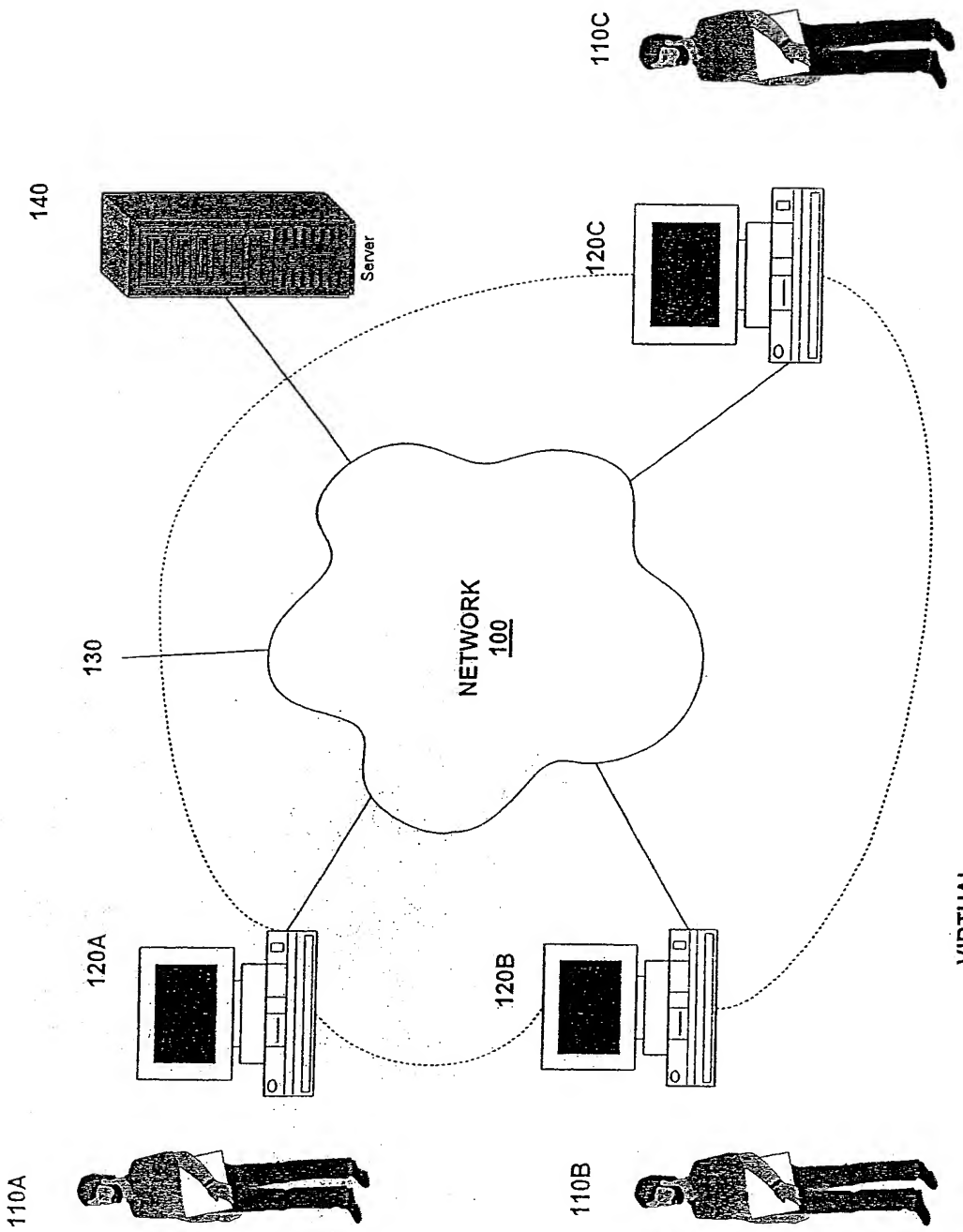
110C
140
Server
120C
NETWORK
100
130
120A
120B
110A
110B
VIRTUAL
NETWORK 140

FIG. 1

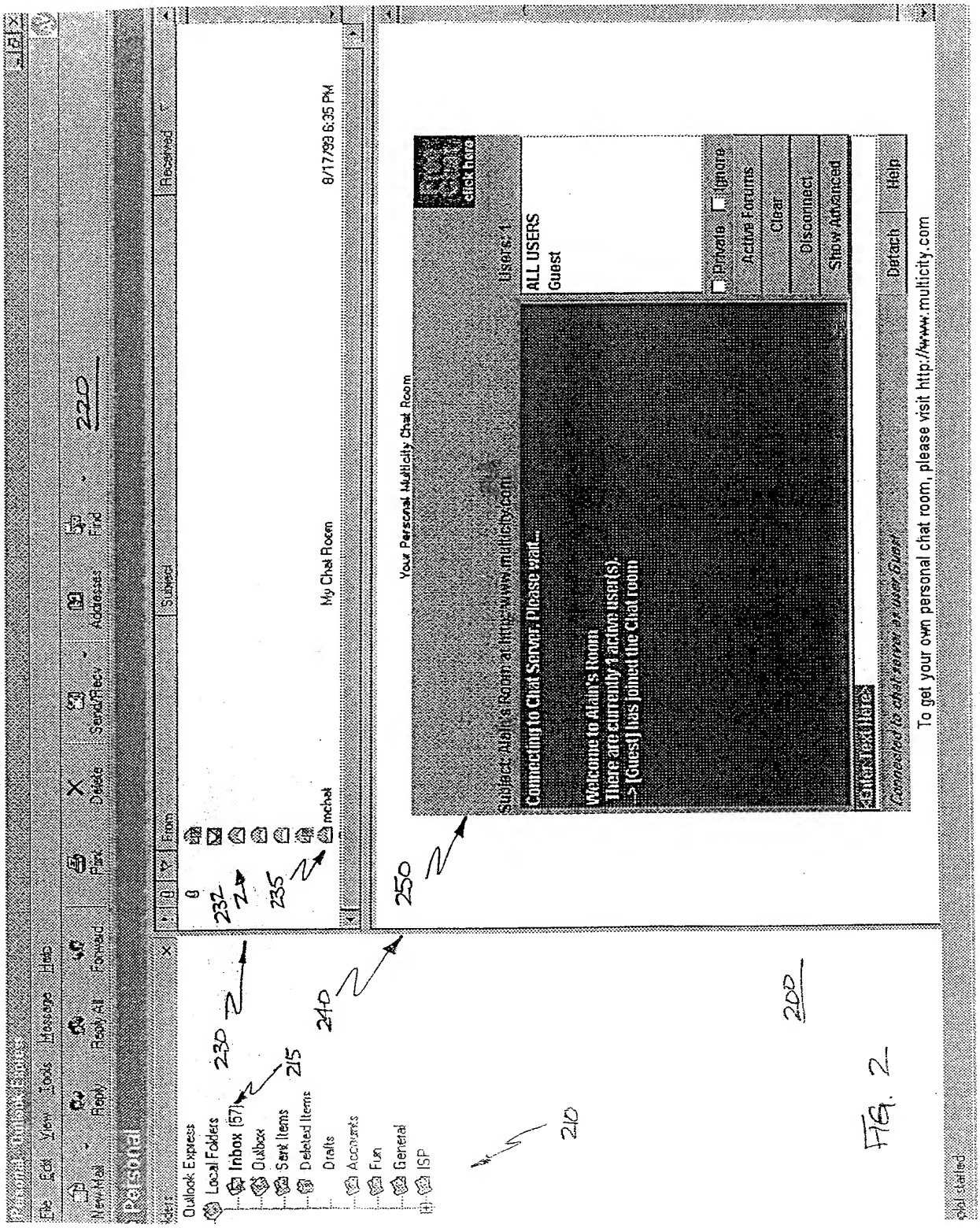
Outlook Express
Local Folders
Inbox (57)
Outbox
Sent Items
Deleted Items
Drafts
Accounts
Fun
General
ISP
My Chat Room
8/17/99 6:35 PM
Your Personal Multicity Chat Room
Connecting to Chat Server. Please wait...
Welcome to Alain's Room
There are currently 1 active user(s).
-> [Guest] has joined the Chat room
ALL USERS
Guest
Private
Ignore
Active Forums
Clear
Disconnect
Show Advanced
Detach
Help
To get your own personal chat room, please visit http://www.multicity.com
210
215
220
230
232
235
240
250
200

FIG. 2

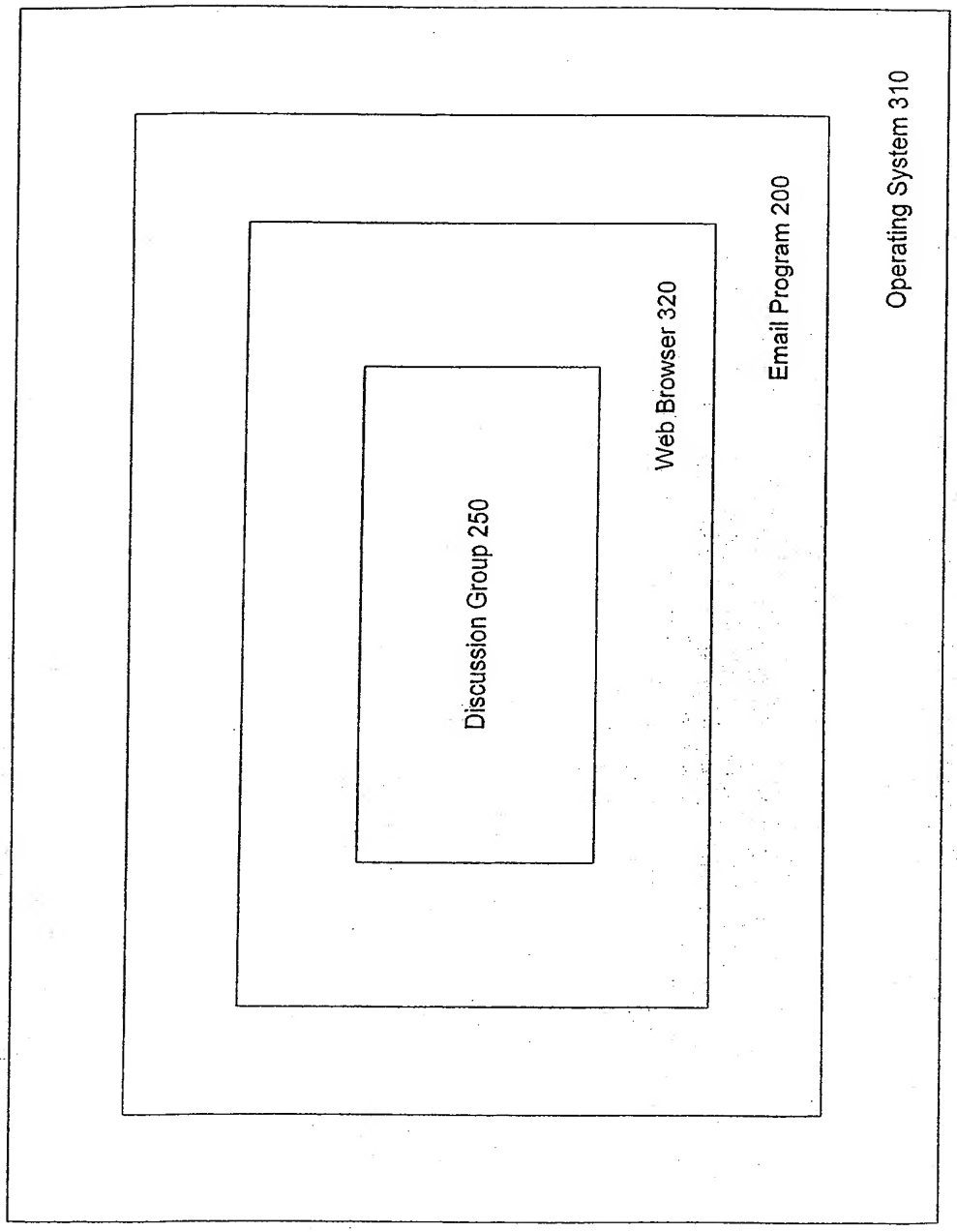
Operating System 310
Email Program 200
Web Browser 320
Discussion Group 250

FIG. 3

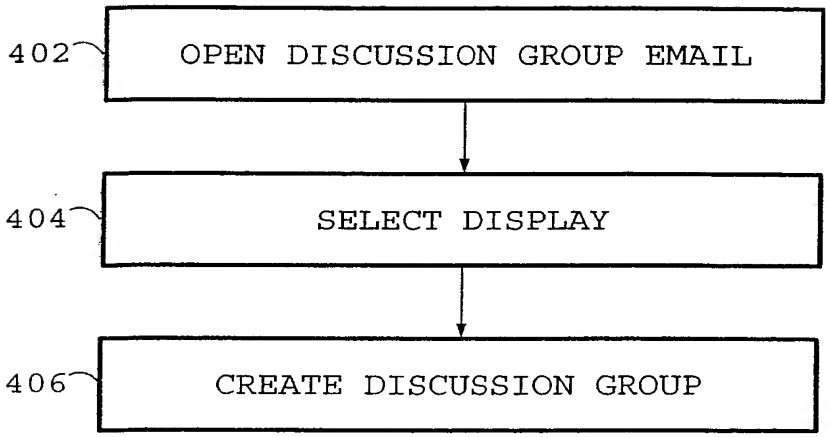
402
OPEN DISCUSSION GROUP EMAIL
404
SELECT DISPLAY
406
CREATE DISCUSSION GROUP

FIG. 4

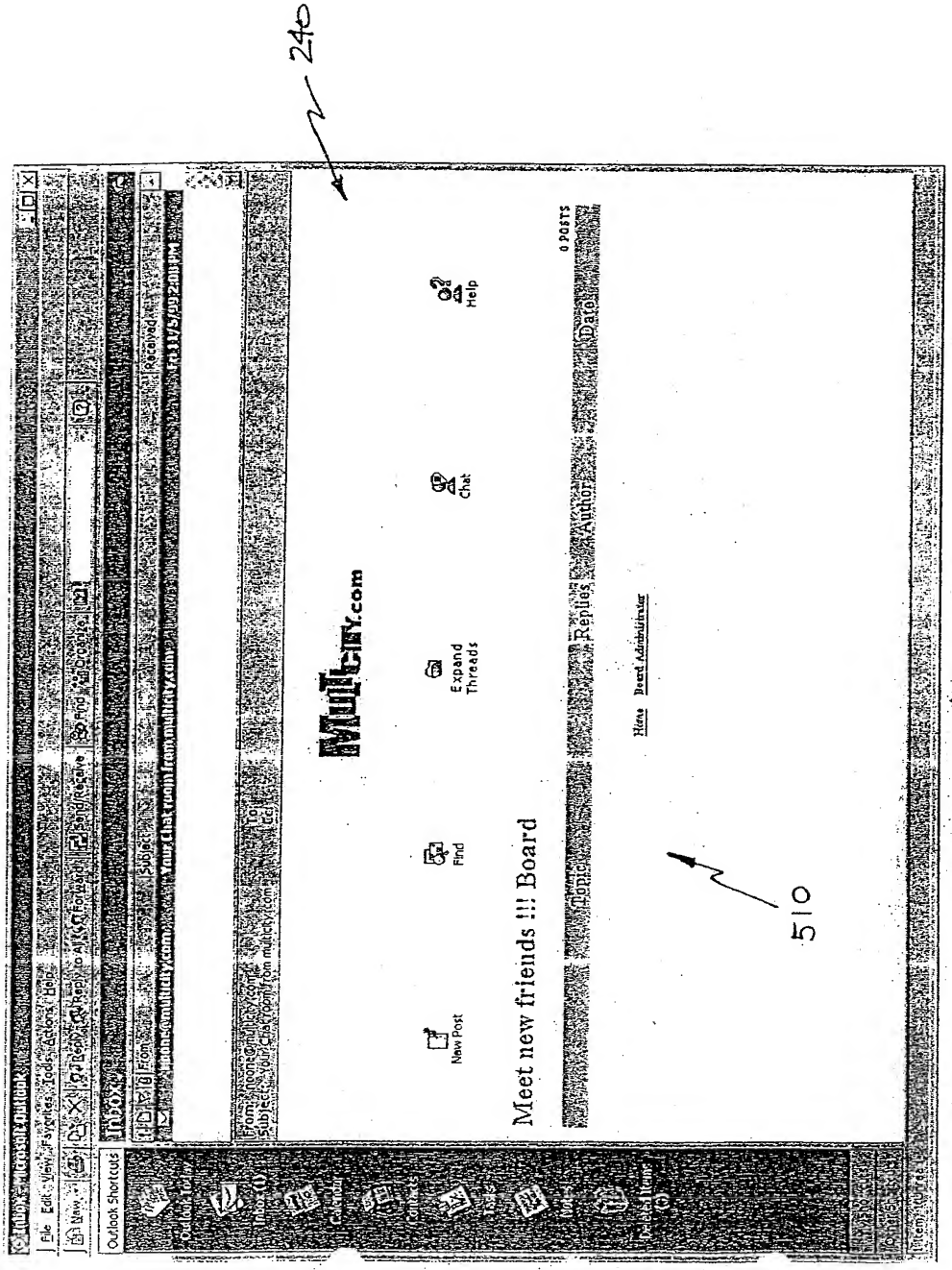
240
Meet new friends !!! Board
New Post
Find
Expand Threads
Chat
Help
Replies
Author
Date
0 POSTS
Home
Board Administration
510
200

FIG. 5

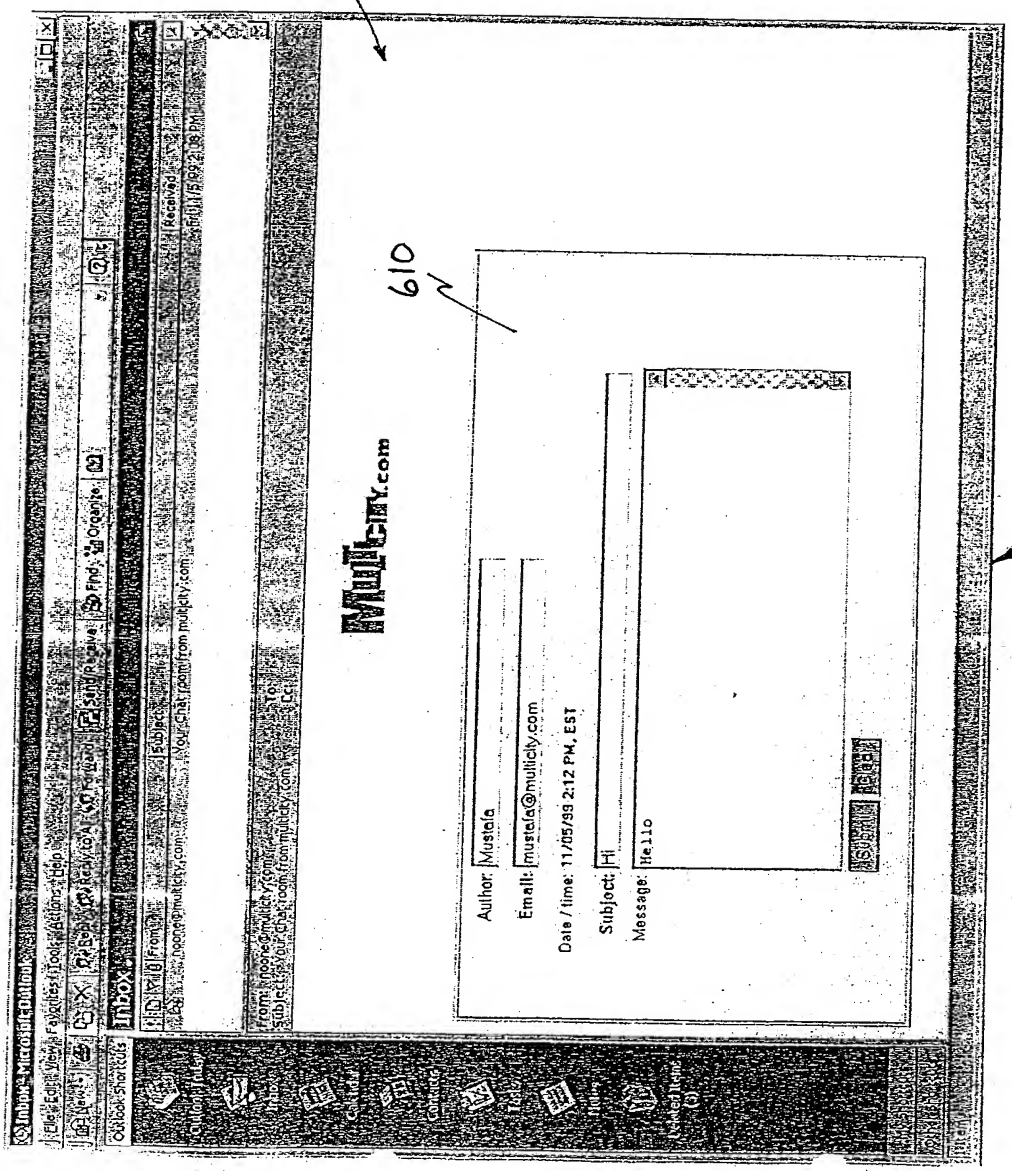
240
610
200
Author: Mustafa
Email: mustafa@multicity.com
Date / time: 11/05/99 2:12 PM, EST
Subject: Hi
Message: Hello

FIG. 6

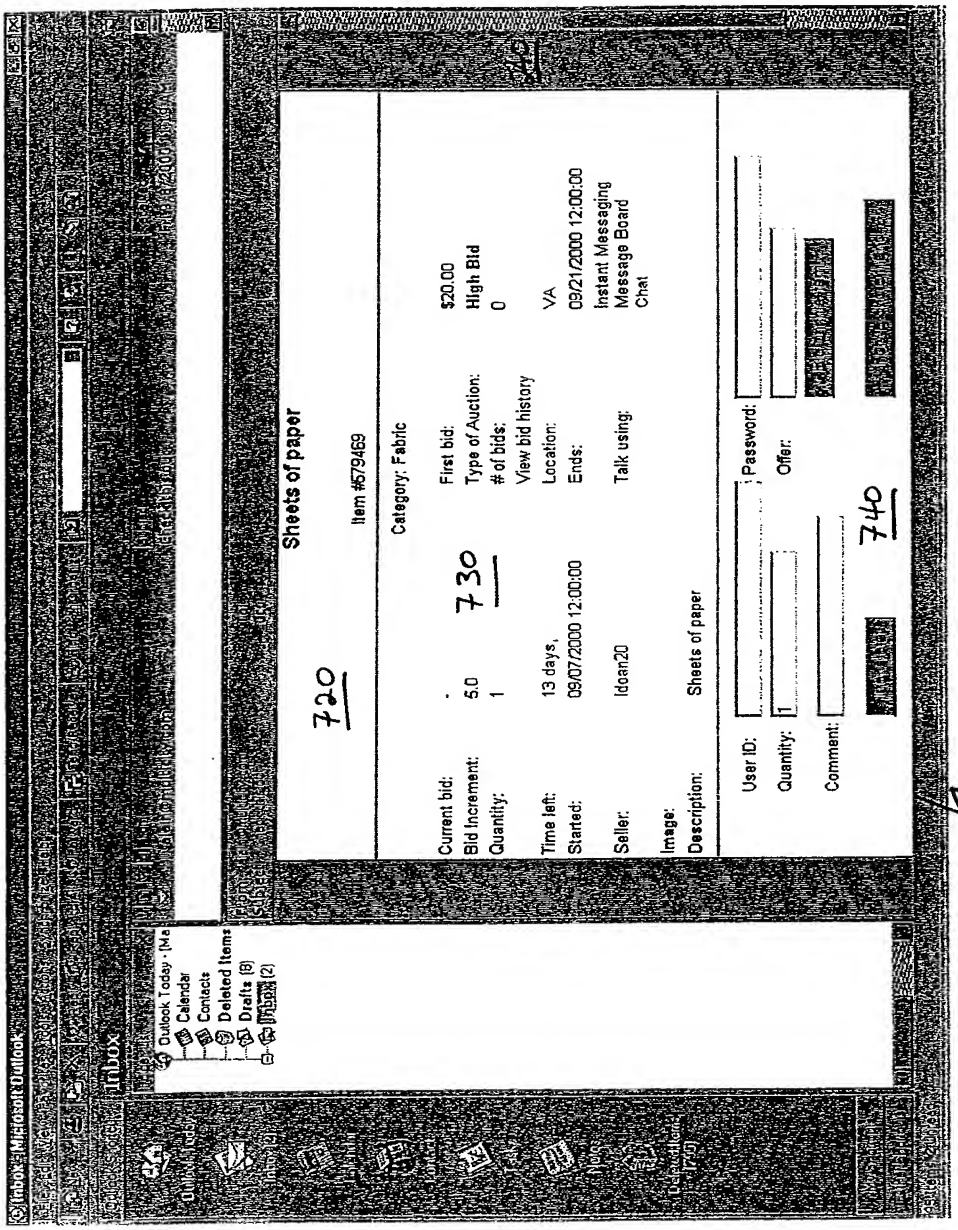
Sheets of paper
720
Item #579469
Category: Fabric
Current bid:
Bid Increment:
Quantity:
Time left:
Started:
Seller:
Image:
Description:
5.0
1
13 days,
09/07/2000 12:00:00
idoan20
Sheets of paper
730
First bid:
Type of Auction:
# of bids:
View bid history
Location:
Ends:
Talk using:
$20.00
High Bid
0
VA
09/21/2000 12:00:00
Instant Messaging
Message Board
Chat
User ID:
Password:
Quantity:
Offer:
Comment:
740
710
200

FIG. 7

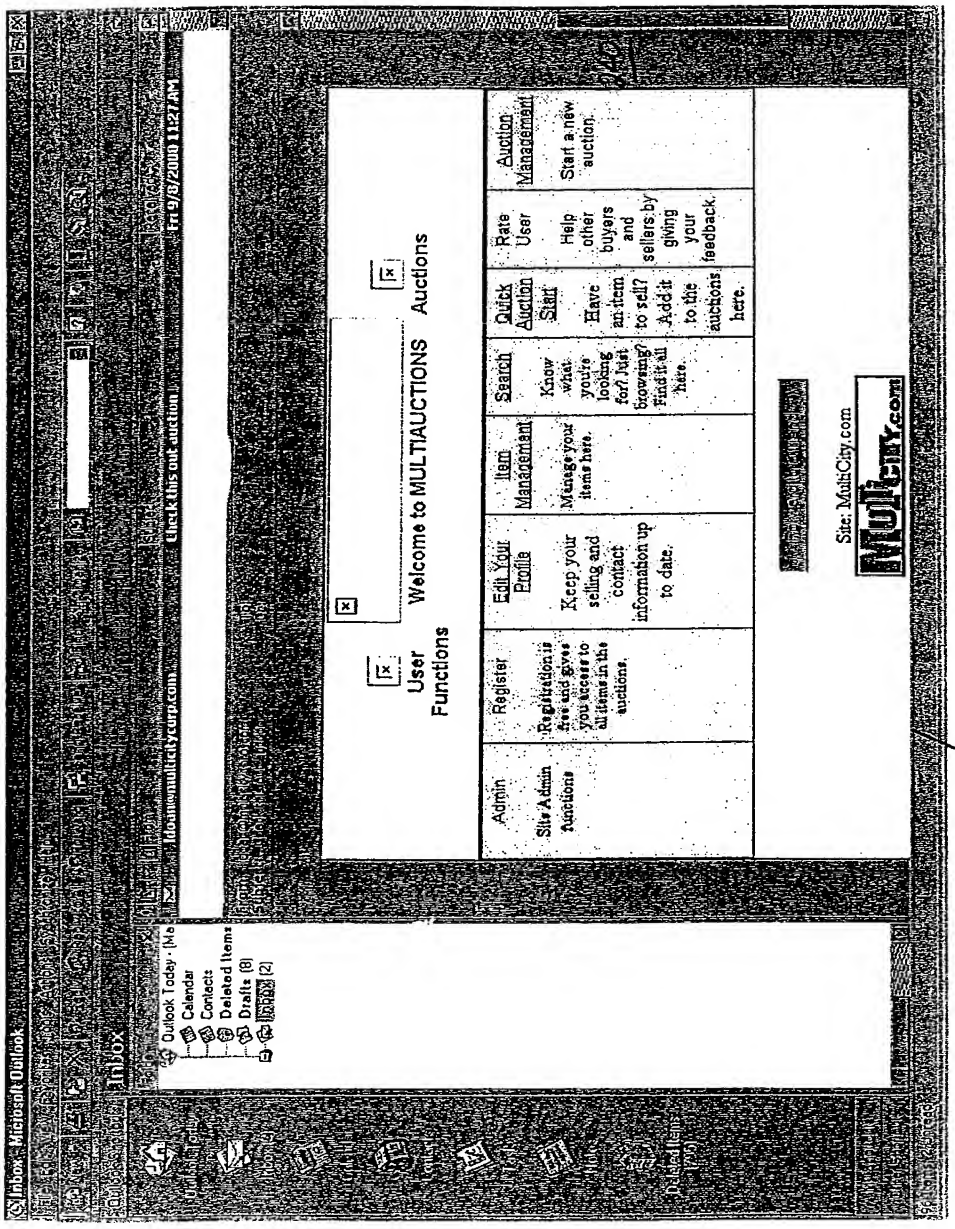
Welcome to MULTIAUCTIONS Auctions
User Functions
Admin
Site Admin functions
Register
Registration is free and gives you access to all items in the auctions.
Edit Your Profile
Keep your selling and contact information up to date.
Item Management
Manage your items here.
Search
Know what you're looking for? Just browsing? Find it all here.
Quick Auction Start
Have an item to sell? Add it to the auctions here.
Rate User
Help other buyers and sellers by giving your feedback.
Auction Management
Start a new auction.
Site: MultiCity.com
MULTIcity.com
810
200

FIG. 8